UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,826	02/05/2004	Tienteh Chen	200309805-1	8078

22879 7590 03/31/2006

HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER	
SHAH, MANISH S	
ART UNIT	**PAPER NUMBER**
2853	

DATE MAILED: 03/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/773,826	CHEN, TIENTEH	
	Examiner	Art Unit	
	Manish S. Shah	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,12-20 and 22-31* is/are rejected.

7)☒ Claim(s) *11 and 21* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/4/04;6/7/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Maruta et al. (# US 4929590).

Maruta et al. discloses a media sheet including:

- A media substrate (see Abstract);
- An ink receiving layer applied as a coating to at least one surface of the substrate, said ink receiving layer including hollow particulates (see Abstract); and
- A protective layer applied as coating to the ink-receiving layer, said protective layer including latex particulate (column: 6, line: 50-60; column: 3, line: 54-63).
- The ink receiving layer and protective layer includes a binder, and the ink-receiving layer is applied at from 2 to 15 g/m^2 (column: 3, line: 33-37).
- The hollow particulates have a void volume from 40 to 90% (column: 3, line: 8-11; column: 2, line: 43-46); hollow particulates are from 0.2 to 1.5 μm in size (column: 2, line: 43-46; column: 3, line: 1-5); and have a glass transition temperature (Tg) from 40 to 90 °C (column: 3, line: 1-3; column: 2, line: 41-43).

• They also disclose that the binder resin can be used in an amount of 2 to 50 wt.% of total weight of the hollow particles and the binder resin (98:2 to 50:50) (column: 3, line: 37-40).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 8-10 & 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruta et al. (# US 4929590) in view of Taylor et al. (# US 6352805).

Maruta et al. discloses all the limitation of the media sheet except that (1) the UV protection layer including UV absorbing latex particulate. (2) The UV absorbing latex particulates include at least one UV absorbing monomer being an ethylenically unsaturated compound. (3) The UV absorbing layer is applied at from 0.2 to 5 g/m^2. (3) The UV absorbing latex particulates are from 0.05 to 1 micrometer in size and have a Tg from 50 to 120 degree C.

Taylor et al. teaches that to get the water resistance, fingerprint resistance printed image, outermost layer is the UV protective layer including UV absorbing latex particulate (column: 2, line: 65-67; see Abstract; column: 6, line: 35-67); see Examples). They also teach that the UV absorbing latex particulates includes at least one UV

absorbing monomer being an ethylenically unsaturated compound (column: 4, line: 1-45; see Examples). They also teach that the UV absorbing layer is applied at 0.54 g/m^2 (column: 3, line: 60-65; column: 6, line: 39-44). They also teach that the UV absorbing latex particulates are from 10 to 250 nm (0.01 to 0.2 micrometer) (column: 3, line: 64-67) in size and have a Tg from -60 to 60 degree C (column: 4, line: 1-10).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the overcoat layer of Maruta et al. by the aforementioned teaching of Taylor et al. in order to have a water resistance, fingerprint resistance printed image.

3. Claims 13, 18-20 & 22-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waller, Jr. (# US 6692799) in view of Taylor et al. (# US 6352805).

Waller, Jr. discloses a system for preparing a fused inkjet image and a method of preparing a fused inkjet image including a media sheet including a media substrate (element: 12, figure: 1), an ink receiving layer applied as a coating to at least one surface of the substrate, which includes hollow particulates (porous structure) (element: 14, 15, figure: 1), and protection layer applied as a coating to the ink receiving layer (element: 16, figure: 1). They also disclose a inkjet ink including dye (see Abstract; column: 11, line: 60-67), which is printed onto the media sheet, wherein upon printing, the inkjet ink substantially passes through the protection layer and taken within voids of the hollow particulates (element: 24, figure: 1; column: 4, line: 60-67); and fusion system configured for fusing the protective layer and the ink receiving layer after printing of the inkjet ink (column: 12, line: 1-10). They also disclose a pair of rollers configured to apply

heat and pressure to the media sheet after application of the inkjet ink, thereby forming a fused inkjet image (column: 12, line: 1-10; figure: 8). They also disclose that the UV absorbing latex particulates include at least one UV absorbing monomer being an ethylenically unsaturated compound.

Waller, Jr. differs from the claim of the present invention is that (1) the UV protection layer including UV absorbing latex particulate. (2) The UV absorbing latex particulates include at least one UV absorbing monomer being an ethylenically unsaturated compound. (3) The UV absorbing layer is applied at from 0.2 to 5 g/m^2. (3) The UV absorbing latex particulates are from 0.05 to 1 micrometer in size and have a Tg from 50 to 120 degree C.

Taylor et al. teaches that to get the water resistance, fingerprint resistance printed image, outermost layer is the UV protective layer including UV absorbing latex particulate (column: 2, line: 65-67; see Abstract; column: 6, line: 35-67); see Examples). They also teach that the UV absorbing latex particulates includes at least one UV absorbing monomer being an ethylenically unsaturated compound (column: 4, line: 1-45; see Examples). They also teach that the UV absorbing layer is applied at 0.54 g/m^2 (column: 3, line: 60-65; column: 6, line: 39-44). They also teach that the UV absorbing latex particulates are from 10 to 250 nm (0.01 to 0.2 micrometer) (column: 3, line: 64-67) in size and have a Tg from -60 to 60 degree C (column: 4, line: 1-10).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the overcoat layer of Waller, Jr. by the aforementioned teaching of Taylor et al. in order to have a water resistance, fingerprint resistance printed image.

4. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waller, Jr. (# US 6692799) in view of Taylor et al. (# US 6352805) as applied to claim 13 above, and further in view of Maruta et al. (# US 4929590).

Waller, Jr. and Taylor et al. discloses all the limitation of the system for preparing a fused ink jet image except that the:

- The ink receiving layer and protective layer includes a binder, and the ink-receiving layer is applied at from 5 to 40 g/m^2.
- The hollow particulates have a void volume from 40 to 90%; hollow particulates are from 0.3 to 5 μm in size; and have a glass transition temperature (Tg) from 40 to 90 °C.
- The hollow particulate to hollow particulate binder ratio being from 95:5 to 50:50 by weight.

Maruta et al. teaches that to get the high quality printed image, the media sheet including:

- A media substrate (see Abstract);
- An ink receiving layer applied as a coating to at least one surface of the substrate, said ink receiving layer including hollow particulates (see Abstract); and
- A protective layer applied as coating to the ink-receiving layer, said protective layer including latex particulate (column: 6, line: 50-60; column: 3, line: 54-63).
- The ink receiving layer and protective layer includes a binder, and the ink-receiving layer is applied at from 2 to 15 g/m^2 (column: 3, line: 33-37).

• The hollow particulates have a void volume from 40 to 90% (column: 3, line: 8-11; column: 2, line: 43-46); hollow particulates are from 0.2 to 1.5 μm in size (column: 2, line: 43-46; column: 3, line: 1-5); and have a glass transition temperature (Tg) from 40 to 90 °C (column: 3, line: 1-3; column: 2, line: 41-43).

• They also disclose that the binder resin can be used in an amount of 2 to 50 wt.% of total weight of the hollow particles and the binder resin (98:2 to 50:50) (column: 3, line: 37-40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the overcoat layer of Waller, Jr. as modified by the aforementioned teaching of Maruta et al. in order to have the high quality printed image.

Allowable Subject Matter

5. Claims 11 & 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: The UV absorbing latex particulates have a strong absorbance between 300 nm to 420 nm and lower absorbance above 420 nm.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Manish S. Shah
Primary Examiner
Art Unit 2853

MSS
3/22/06